UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,608	03/07/2001	Martin W. McKinnon III	10263-33244	7465

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EXAMINER
DUONG, THOMAS

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/800,608	MCKINNON ET AL.
	Examiner	Art Unit
	Thomas Duong	2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 January 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38 and 48-58* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38 and 48-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some *   c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/30/01*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1.   Applicant's election without traverse of *claims 1-38 and 48-58* in Response to

Election/Restriction filed on January 25, 2005 is acknowledged.

2.   *Claims 39-47* are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as

being drawn to a nonelected inventions, there being no allowable generic or linking

claim. Election was made **without** traverse in Response to Election/Restriction filed on

January 25, 2005. In response to this office action, cancellation of nonelected claims is

required from the applicant.

Claim Objections

3.   <u>Claim 55</u> is objected to because of the following informalities:

- *claim 55* appears to depend on *claim 48*.

During the course of prosecution, examiner will treat as such. Please make the

appropriate correction.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or
described as set forth in section 102 of this title, if the differences between the subject
matter sought to be patented and the prior art are such that the subject matter as a
whole would have been obvious at the time the invention was made to a person having

ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   _Claims 1-8, and 48-58_ are rejected under 35 U.S.C. 103(a) as being unpatentable over

Bowman-Amuah (US006542593B1) and in view of Tunnicliffe et al. (US006272110B1).

6.   With regard to _claims 1 and 48_, Bowman-Amuah discloses,

- *(a) monitoring network access usage by each user during a time interval;*

   (Bowman-Amuah, col.21, lines 22-26, lines 34-39; col.22, lines 27-32, lines 46-

   49, lines 54-57)

   Bowman-Amuah teaches of *"[collecting] of usage data and events for the*

   purpose of network performance and traffic analysis" (Bowman-Amuah, col.21,

   lines 24-26) and *"to provide effective monitoring. Monitoring and reporting must*

   provide [ISP] management and customers meaningful and timely performance

   information across the parameter of the services provided" (Bowman-Amuah,

   col.22, lines 27-30).

- *(b) comparing said monitored network access usage by each user with a*

   predetermined threshold value; and (Bowman-Amuah, col.51, lines 42-63; col.52,*

   lines 49-54)

   Bowman-Amuah teaches of *"[determining] a current level of service and compare*

   the current level of services with the minimum level of service that the service

   provider can provide without violating SLAs" (Bowman-Amuah, col.52, lines 51-

   54).

   However, Bowman-Amuah does not explicitly disclose,

- *(c) soliciting a user to modify the user's SLA if the user's monitored network access usage varies from the predetermined value by a predetermined tolerance.*

Tunnicliffe teaches,

- *(c) soliciting a user to modify the user's SLA if the user's monitored network access usage varies from the predetermined value by a predetermined tolerance.* (Tunnicliffe, col.2, lines 5-22)

Tunnicliffe teaches that *"the service provider has an advantage in that he knows in advance that the agreed levels may be exceeded and he can analyse the network in advance to see if extra bandwidth can be allocated"* (Tunnicliffe, col.2, lines 15-18) and, if so, *"the service provider could then make an offer to sell extra bandwidth to the customer"* (Tunnicliffe, col.2, lines 18-19). Furthermore, according to Tunnicliffe, *"equally, if the agreed bandwidth levels will be under-utilised by the customer then both parties can make use of this information in a similar way"* (Tunnicliffe, col.2, lines 19-22).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Tunnicliffe with the teachings of Bowman-Amuah to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

7.   With regard to *claims 2-3*, Bowman-Amuah and Tunnicliffe disclose,

- *wherein the threshold value represents a respective maximum level of network access for each user.* (Bowman-Amuah, col.21, lines 34-43; col.51, lines 6-20, lines 37-41; Tunnicliffe, col.3, lines 31-41)

- *wherein the threshold value represents a respective maximum burstable level of network access with target probability for each user.* (Bowman-Amuah, col.21, lines 34-43; col.51, lines 6-20, lines 37-41; Tunnicliffe, col.3, lines 31-41)

8.   With regard to *claims 4-8 and 49-53*, Bowman-Amuah and Tunnicliffe disclose,

- *wherein the threshold value represents a respective maximum level of network access for each user.* (Tunnicliffe, col.2, lines 5-22)

- *wherein said step of soliciting a user comprises contacting the user via redirection of a web browser of the user to a solicitation web page.* (Tunnicliffe, col.2, lines 5-22)

- *wherein said step of soliciting a user comprises contacting the user via generation and mailing of literature.* (Tunnicliffe, col.2, lines 5-22)

- *wherein said step of soliciting a user comprises contacting the user via a telephonic communication.* (Tunnicliffe, col.2, lines 5-22)

9.   With regard to *claims 11 and 58*, Bowman-Amuah and Tunnicliffe disclose,

- *further comprising charging the user a fee for the modification of the SLA. (Tunnicliffe, col.1, lines 23-25, lines 32-36).*

10.   With regard to *claims 14-17 and 20*, Bowman-Amuah and Tunnicliffe disclose,

- *wherein said step of monitoring network access includes collecting data representative of the number of logical data units transmitted from and to each user during a time interval.* (Bowman-Amuah, col.21, lines 22-26, lines 34-39; col.22, lines 27-32, lines 46-49, lines 54-57)

- *wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets transmitted from and to each user during a time interval.* (Bowman-Amuah, col.21, lines 22-26, lines 34-39; col.22, lines 27-32, lines 46-49, lines 54-57)

11.   With regard to *claims 24-26*, Bowman-Amuah and Tunnicliffe disclose,

- *further comprising, based on said monitored network access usage, allocating network access to each user for a future time interval.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66)

- *wherein said step of allocating network access comprises allocating network access equally to the users.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66)

- *further comprising prioritizing the users for allocating network access.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66)

12.   With regard to *claims 27-33 and 54-57*, Bowman-Amuah and Tunnicliffe disclose,

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs specify respective minimum levels of network access for the users, and said step of prioritizing includes comparing said monitored network access usages for the users with the specified respective minimum levels of network access, and awarding priority to a user when said respective monitored network access usage for such user falls below the user's specified respective minimum level of network access.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66;

col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40;

col.3, lines 8-20)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the*

  SLAs specify respective time-of-day (TOD) minimum levels of network access for

  users, and said step of prioritizing includes comparing said monitored network

  access usages for such users during the specified respective TOD with the

  specified respective TOD minimum levels of network access, and awarding

  priority to a user when said monitored network access usage during the specified

  respective TOD for such user falls below the user's specified respective TOD

  minimum level of network access (Bowman-Amuah, col.1, lines 41-52; col.16,

  lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1,

  lines 36-40; col.3, lines 8-20)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the*

  SLAs specify respective minimum levels of network access up to a maximum

  burstable levels with target probability for users, and said step of prioritizing

  includes comparing said monitored network access usage both with the

  respective minimum levels of network access for such users and with the

  respective maximum burstable levels of network access for such users, and

  comparing the instances the respective maximum levels of network access were

  obtained for such users out of all instances the respective maximum levels of

  network access were requested for such users. (Bowman-Amuah, col.1, lines 41-

  52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54;

  Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs provide a respective fee for network access usage by 5 users, and said step of prioritizing comprises sorting such users based on each user's respective fee in decreasing order, with a user with a higher fee receiving priority over a user with a lesser fee.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs provide respective credits for levels of network access below respective guaranteed levels for users, and said step of prioritizing comprises sorting such users based on each user's respective credit in decreasing order, with a user with a higher credit receiving priority over a user with a lower credit.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein said step of prioritizing is based on the SLAs of the users, wherein the SLAs specify respective minimum levels of network access for users, and said step of allocating network access comprises allocating network access to such users equal to each user's specified respective minimum level of network access.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein said prioritizing is based on fairness considerations.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

13.   With regard to *claims 34-38*, Bowman-Amuah and Tunnicliffe disclose,

- *wherein the users are prioritized based on user throughput during a time interval, with a user with lesser throughput rate receiving priority over a user with greater throughput rate.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein the users are prioritized based on data loss for each user during a time interval, with a user with greater data loss rate having priority over a user with lesser data loss rate.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein the users are prioritized based on network access usage for a particular time of day, with a user with lesser network access usage for the particular time of day receiving priority over a user with greater network access usage for the particular time of day.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein the users are prioritized based on both user throughput and data loss during a time interval.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51, lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3, lines 8-20)

- *wherein users are prioritized based on an established minimum quality of service (QoS) standard.* (Bowman-Amuah, col.1, lines 41-52; col.16, lines 56-66; col.51,

lines 6-20; lines 33-63; col.52, lines 39-54; Tunnicliffe, col.1, lines 36-40; col.3,

lines 8-20)

14.   *Claims 9-10, 12-13, and 21-23* are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bowman-Amuah (US006542593B1), in view of Tunnicliffe et al.

(US006272110B1), and further in view of Williams (US005867764A).

15.   With regard to *claims 9-10 and 12-13*, Bowman-Amuah and Tunnicliffe disclose,

See *claim 1* rejection as detailed above.

However, Bowman-Amuah and Tunnicliffe do not explicitly disclose,

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a permanent basis.*

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user with a maximum burstable level of network access with target probability.*

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a temporary basis.*

- *wherein network access comprises bandwidth across the shared communications medium for consumption by each user in conveying data of the user.*

Williams teaches,

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a permanent basis.* (Williams, col.4, lines 49-52; col.14, lines 11-14)

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user with a maximum burstable level of network access with target probability.* (Williams, col.4, lines 49-52; col.14, lines 11-14)

- *wherein the modification of the user's SLA includes guaranteeing a level of network access to the user on a temporary basis.* (Williams, col.4, lines 49-52; col.14, lines 11-14)

- *wherein network access comprises bandwidth across the shared communications medium for consumption by each user in conveying data of the user.* (Williams, col.4, lines 49-52; col.14, lines 11-14)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Williams with the teachings of Bowman-Amuah and Tunnicliffe to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

16.   With regard to *claims 21-23*, Bowman-Amuah and Tunnicliffe disclose,

See *claim 1* rejection as detailed above.

However, Bowman-Amuah and Tunnicliffe do not explicitly disclose,

- *wherein the shared communications medium is part of a Shared Access Carrier Network.*

- *wherein the Shared Access Carrier Network comprises a Cable Network and the shared communications medium comprises a coaxial cable.*

Williams teaches,

- *wherein the shared communications medium is part of a Shared Access Carrier Network.* (Williams, col.1, lines 25-58; col.7, lines 47-64)

- *wherein the Shared Access Carrier Network comprises a Cable Network and the shared communications medium comprises a coaxial cable.* (Williams, col.1, lines 25-58; col.7, lines 47-64)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Williams with the teachings of Bowman-Amuah and Tunnicliffe to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

17.   *Claims 18-19* are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-Amuah (US006542593B1), in view of Tunnicliffe et al. (US006272110B1), and further in view of Natarajan et al. (US006577597B1).

18.   With regard to *claims 18-19*, Bowman-Amuah and Tunnicliffe disclose,

   See *claim 1* rejection as detailed above.

   However, Bowman-Amuah and Tunnicliffe do not explicitly disclose,

- *wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time interval.*

- *wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time interval.*

Natarajan teaches,

- *wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time interval.* (Bowman-Amuah, col.8, lines 26-38; col.14, line 66 – col.15, line 5; col.16, lines 32-55)

- *wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time interval.* (Bowman-Amuah, col.8, lines 26-38; col.14, line 66 – col.15, line 5; col.16, lines 32-55)

- *wherein the Shared Access Carrier Network comprises a* wireless network. (Williams, col.1, lines 25-58; col.7, lines 47-64)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teachings of Natarajan with the teachings of Bowman-Amuah and Tunnicliffe to enable the customer as well as the service provider to take the proper action based on the bandwidth usage information and the service level agreement.

Conclusion

19.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Natarajan et al. (US006539427B1) relates generally to data networks, and more specifically to a technique for providing a feedback-based data network for dynamically adapting to changing network conditions.

- Bartz et al. (US006701342B1) relates to Internet services and, more particularly, to a method and apparatus for measuring the quality of service being provided to customers and for determining whether or not the quality of service is in compliance with service level agreements (SLAs) that characterize the level of service to be provided to customers.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas Duong whose telephone number is 571/272-3911. The examiner can normally be reached on M-F 7:30AM - 4:00PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on 571/272-6159. The fax phone numbers for the organization where this application or proceeding is assigned are 703/872-9306 for regular communications and 703/872-9306 for After Final communications.

Thomas Duong (AU2145)

April 28, 2005
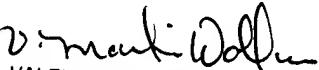
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